

# Photocatalytic Ceramic Paint to Purify Air

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Nowadays, daily human activities related with use of vehicles and industrial processes, are generating air contamination. Main pollutants are nitrogen oxides (NO<sub>x</sub>) and sulfur oxides (SO<sub>x</sub>), those gases produce acid rain, photochemistry smog, green house effect and health problems like respiratory diseases. This project has the purpose to approach this problem by propose a photocatalytic ceramic paint to purify air, involved heterogeneous photocatalysis , that is a technological tool that give us sustainable solutions. With active titanium dioxide (TiO<sub>2</sub>) in anatase form, a ceramic photocatalytic paint will be prepared, then in contact to the polluting gases, will be analyzed in a photocatalytic reactor where will be simulate controlled environmental conditions. To prepare the paint, will be necessary to synthesize the titanium dioxide by the sol-gel method and then characterized by x rays diffraction, electronic microscope and reflecting spectrophotometer. All those procedures will be done with the equipment from a local University, with the main objective to eliminate contaminant gases from environment using paint made with the active material (TiO<sub>2</sub>).